

**Toxicity and Health**

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INTERNAL TOXINS	EXTERNAL TOXINS
<ul style="list-style-type: none"><li>• We produce toxic materials in the normal course of living to produce energy<ul style="list-style-type: none"><li>◦ Aerobic &amp; Anaerobic respiration</li></ul></li><li>• The food we eat and metabolize</li><li>• Our thoughts, feelings and emotions</li><li>• Dis-Ease<ul style="list-style-type: none"><li>◦ IBS, SIBO, Constipation.....</li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>Persistent Bioaccumulative and Toxic (PBT)</b><ul style="list-style-type: none"><li>◦ Have long T<sub>1/2</sub> life's and accumulate in body</li><li>◦ Heavy metals (bind in tissue): mercury, lead, arsenic, cadmium, nickel, etc.</li><li>◦ Halogenated compounds (store in fat tissue):</li></ul></li><li>• <b>Non Persistent Toxins</b><ul style="list-style-type: none"><li>◦ Clear rapidly (weeks) however we have daily exposure to large amounts. Prenatal exposure has been associated with neurological damage.</li><li>◦ Exhaust – outdoor air pollutants</li><li>◦ Solvents, Organophosphate, pesticides, etc</li></ul></li></ul>

**Toxic phenomena are a part of our external and internal environment**

## We Have Efficient Systems for Detoxification however they are Costly

- The breakdown of how we spend energy on all aspects of living that require new molecule formation goes something like this.
  - 80% spent on the processes of molecular transformation necessary for efficient detoxification
  - 5% on immune function
  - 10% on the Central Nervous System
  - 5% on organ maintenance

- We develop problems when our detoxification systems are overwhelmed by chemicals (internal or external), by-products of infection, extreme physical demand

Or

- When we become inefficient in making the energy necessary to support effective detoxification processes

- Toxins are phenomena that can cause disruption to the normal functioning of an individual.
- Phenomena may be of a physical, energetic or psychological/social nature
- The conditions by which such phenomenon can be harmful to the individual need to be met before a problem develops

## Physical Phenomena

- Conditions of Temperature or Humidity
- Environmental toxins
  - Heavy metals such as Mercury, Lead and Cadmium
  - Petrochemical pollutants such as Phthalates
  - Organochloric and Organophosphate compounds
  - Toxins produced by infecting agents Candida, Borrelia, Herpes family of viruses
  - Prescription and OTC medications including Supplements

## Energetic Phenomena

- **Geopathic Fields**
  - electromagnetic perturbations created by underground phenomena such as water
- **Electromagnetic Fields from Household Wiring**
  - Even when the electricity is turned off at night these effects are present.
- **Electromagnetic Effects from Cell Phone Towers, Cordless Phones, Blue Tooth transmission**

## Psychological and Social Phenomena

- Post Traumatic Stress is a continuum phenomenon that may arise from a single event or a series of events.
- The effects are mediated through the Autonomic Nervous System and the Hypothalamic-Pituitary-Adrenal System
- Toxicity at this level must be cleared to optimize health and for effective healing of chronic illness.

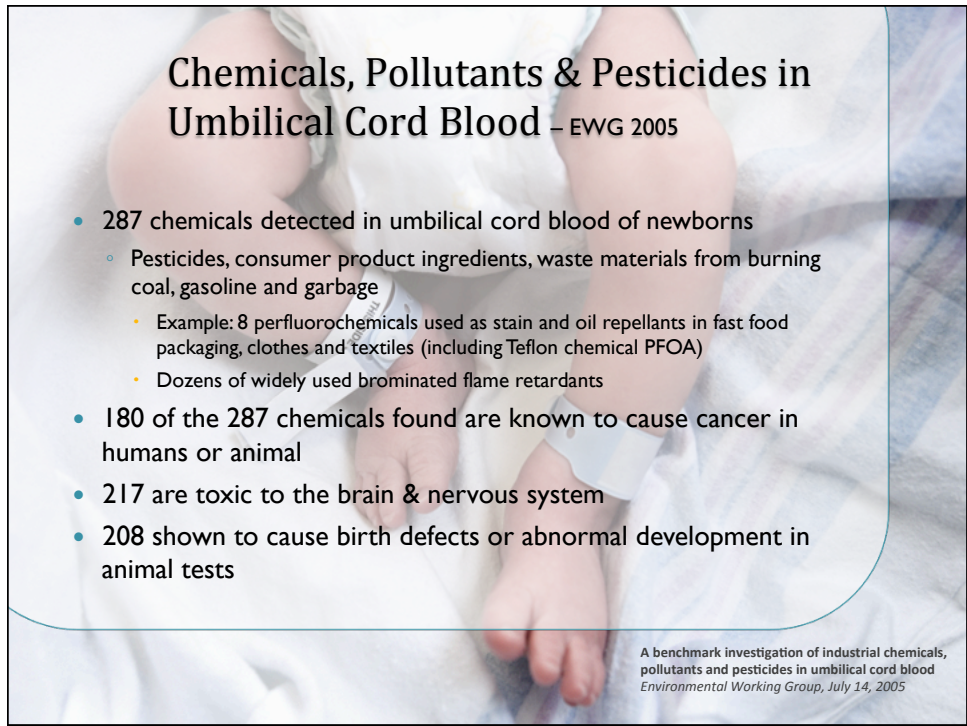
## Toxins – How Prevalent?

- According to the United States Environmental Protection Agency in 2002 through their “Toxic Release Inventory” tracking system, over 7.1 billion pounds of 650 different industrial chemicals were released in the air and water, 266 of which are linked to birth defects.
- Worldwide, the estimates approach 80 billion pounds of toxins released annually.
- Some of these toxins affect human health in microgram doses.

## Definition and Source of Toxic Burden



- Toxic burden is the total accumulation of toxins that the body is dealing with.
- These toxins come from a variety of sources but initial exposure actually begins while a baby is still in the womb!



## Chemicals, Pollutants & Pesticides in Umbilical Cord Blood – EWG 2005

- 287 chemicals detected in umbilical cord blood of newborns
  - Pesticides, consumer product ingredients, waste materials from burning coal, gasoline and garbage
    - Example: 8 perfluorochemicals used as stain and oil repellants in fast food packaging, clothes and textiles (including Teflon chemical PFOA)
    - Dozens of widely used brominated flame retardants
- 180 of the 287 chemicals found are known to cause cancer in humans or animal
- 217 are toxic to the brain & nervous system
- 208 shown to cause birth defects or abnormal development in animal tests

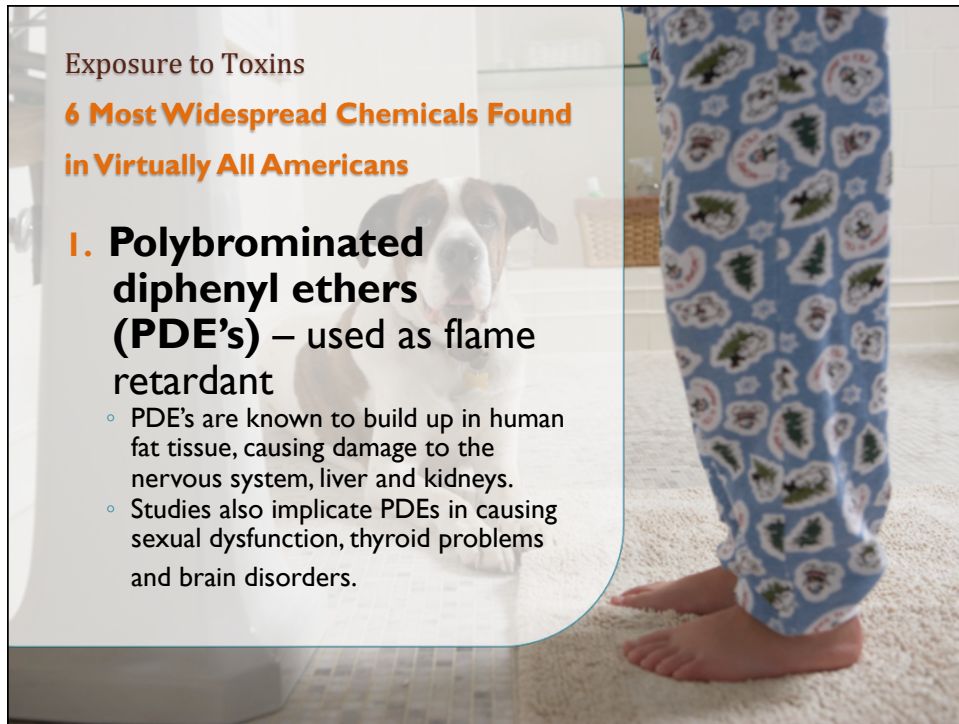
A benchmark investigation of industrial chemicals, pollutants and pesticides in umbilical cord blood  
Environmental Working Group, July 14, 2005

## TOXINS AND OUR HEALTH



Throughout our daily life we are in **constant contact** with **environmental toxins** leading to **health concerns** in a **variety** of areas.

Where are these toxins coming from?



Exposure to Toxins

**6 Most Widespread Chemicals Found in Virtually All Americans**

**1. Polybrominated diphenyl ethers (PDE's) – used as flame retardant**

- PDE's are known to build up in human fat tissue, causing damage to the nervous system, liver and kidneys.
- Studies also implicate PDEs in causing sexual dysfunction, thyroid problems and brain disorders.



Exposure to Toxins

**6 Most Widespread Chemicals Found in Virtually All Americans**

**2. Bisphenol A (BPA)**


- Found in plastic products, can linings
- Primary human exposure through food packaging plastics
- More than 90% of people tested by CDC were found to have BPA in their bodies
- Because BPA is a reproductive, developmental, and systemic toxicant in animal studies and is weakly estrogenic, there are questions about its potential impact particularly on children's health and the environment.

Exposure to Toxins

**6 Most Widespread Chemicals Found in Virtually All Americans**


**3. Perfluorooctanoic acid (PFOA)**

- Used in non-stick cookware, stain-resistant clothing, certain food packaging and other heat-resistant products
- Studies verify that PFOA contributes to infertility and other reproductive problems.
- Liver and immune system dysfunction also associated with the use of PFOAs



**Toxicity – How Prevalent?**

- One of the most used cooking surfaces, Teflon, is at the center of major research on its effects on health in the United States.
- It has been implicated as a causative factor in elevated cholesterol and an increase in coronary heart disease.
- The perfluorochemicals (PFC's) are in Stainmaster, Teflon and Gore-Tex, all from DuPont and 3Ms Scotchgard.
- The company did not reveal the known health problems caused by this chemical.
- Elevated LDL may be a marker for toxicity exposure.





## Toxicity – How prevalent?

- PFC's have been found in 90% of the people tested in the United States. It has also been found in similar percentages of people in Korea, China, India and Japan. These were the only countries tested so far.
- 17 of 18 species of animals tested positive for PFC's!
- Perfluorinated chemicals are a diverse group of compounds resistant to heat, water, and oil. For decades, they have been used in hundreds of industrial applications and consumer products such as carpeting, apparels, upholstery, food paper wrappings, fire-fighting foams and metal plating.
- Persistence and BIOACCUMULATE
- Exposure to these chemicals and some health problems such as low birth weight, delayed puberty onset, elevated cholesterol levels, and reduced immunologic responses to vaccination.


<http://www.epa.gov/chemical-research/perfluorinated-chemical-pfc-research>

Exposure to Toxins

**6 Most Widespread Chemicals Found in Virtually All Americans**

**4. Acrylamide**

- Chemical carcinogen formed when carbohydrate foods are cooked at high temperatures.
  - French fries, fried chicken, coffee – all have high acrylamide content
  - Also used in plastics, cosmetics and water treatment products
- Perpetual exposure linked to cancer and neurological dysfunction.




Exposure to Toxins

**6 Most Widespread Chemicals Found in Virtually All Americans**

**5. Mercury**

- Most common exposure route is seafood
- May cause permanent brain damage

A photograph of a silver metal can of tuna. The lid is removed and placed to the left of the can. The can is filled with light-colored, flaked tuna. The background is white.

Exposure to Toxins

**6 Most Widespread Chemicals Found in Virtually All Americans**

**6. Methyl tert-butyl ether (MTBE)**

- Gasoline additive
- Not currently in use today in US
- Current detection in most Americans' bodies
- Additional exposure from second hand cigarette smoke
- Causes neurological and reproductive problems

A photograph of a lit cigarette. The cigarette is held in a white holder. A plume of white smoke is rising from the tip of the cigarette. The background is dark and blurry.

## Effects of petrochemicals

- Disruption of the Citric Acid Cycle Entry Point
  - Inability to properly utilize carbohydrates to derive energy
  - May cause weight gain or weight loss problems
  - Create a hypoglycemic condition
  - Well documented as endocrine disruptors

## Toxicity – How prevalent?

- 9 individuals not in the chemical industry were tested for 210 chemicals and 167 of them were found in at least one of the people with an average number of chemicals found per person was an astounding 91. Most of these chemicals did not exist 20 years ago.

## Toxins – Sources

- In the August 2001 issue of **Atmospheric Environment**, researchers reported:
  - levels of dimethyl mercury from landfills “is higher, by a factor of 30 or 40, than concentrations of total mercury in the ambient air. They also reported that the dimethyl mercury concentration was 1,000 times greater than any measurement ever!!!

## INDOOR TOXINS - VOC

- Volatile Organic Compounds gather in our homes and lead to low level toxicity
- SOURCES:
  - Household product, paint, varnish, hair products/dye, printers, Dry cleaning, gas, pesticides, car wax
- Side Effects:
  - Short Term: headaches, eye, nose and throat irritation, loss of coordination, asthma exacerbation and nausea
  - Long Term: liver, kidney, and central nervous system damage, and cancer
- Minimize effect
  - Ventilate, remove sources from house, No VOC products

## Endocrine Disruptors

- Endocrine Disruptors may:
  - act like a hormone,
  - alter our internal production of hormones (increasing or decreasing),
  - turn one hormone into another,
  - tell a cell to prematurely die,
  - interfere with hormone signaling by binding to essential hormones and/or accumulates in organs.
  - How is that for disruptive!!!

## Endocrine Disruptors – Top 12

- |   |  |
|---|--|
| • BPA (Bisphenol-A)   | • lead,  |
| • Dioxin  | • mercury,                                     |
| • Atrazine  | • arsenic,                                     |
| • Phthalate's   | • perfluorinated chemicals                     |
| • perchlorate,  | • organophosphate pesticides                   |
| • polybrominated diphenyl ethers or PBDEs (Fire retardants) | • glycol ethers                                |
|   | • <a href="http://www.ewg.org">www.ewg.org</a> |

## Phthalates - Neuroendocrine System

- linked to problems of the reproductive system, including hormonal changes, thyroid irregularities and birth defects in the reproductive systems of baby boys.
- Uses - Plasticizer (ubiquitous in household products):
  - Food containers, children's toys, plastic wrap made from polyvinyl chloride (PVC), cosmetics and personal care products, vaginal douches.
    - 2008 Banned from children's toys.
- From the book "Our Stolen Future"
  - Much of the existing literature on phthalates' toxicological properties focuses on the old approach to toxicology: high level exposure for cancer endpoints, and occupational exposure leading to adult infertility.

## Toxins affecting the Endocrine System

- Phthalates increase the formation of
  - quinolinic acid
- Quinolate can induce hippocampal and neuronal damage.

### **How Toxins Affect the Citric Acid Cycle**

- An extreme example:
- Compound 1080 – “The poison that keeps on killing”
- Fluoroacetate is a natural form of the slightly more toxic sodium fluoroacetate, also known as the notorious rodent poison 'Compound 1080'.
- When ingested and metabolized, fluoroacetate is transformed in cells to fluorocitrate – a strong enzyme inhibitor. Fluorocitric acid blocks the CAC Cycle completely!

### **How Toxins Affect the Citric Acid Cycle**

- Compound 1080 is an extreme case, tartaric acid is a more common one.
- It is a common component of many foods and drinks especially wine and grapes.
- It is not a yeast by-product.
- It interferes with the Citric Acid Cycle at the point where Malate comes in.

## How Toxins Affect the Citric Acid Cycle

- Mycotoxins produced from fungus, staphylococcal alpha-toxins, poisonous mushrooms, heavy metals such as titanium, mercury and many others all have an effect on the citric acid cycle.
- These effects lower the ability to create energy from the foods we eat.
- It also lowers metabolism which has major implications in weight loss.

## TOXICITY: Weight Management

- Laboratory animals undergoing toxicity testing showed decreased body temperatures.
- Researchers believe that the movement towards hypothermia may be a protective device used by the body to slow down the effects of the toxins.
- A theoretical model I have proposed over the past few years is that the greater number of people being seen today with low basal temperature is our response to an increase in toxic load.
- Lower Metabolism and low temperature = Slower Toxic Effects = Poor Energy Creation = More Weight Gain = Slower Weight Loss



## TOXICITY: Weight Management

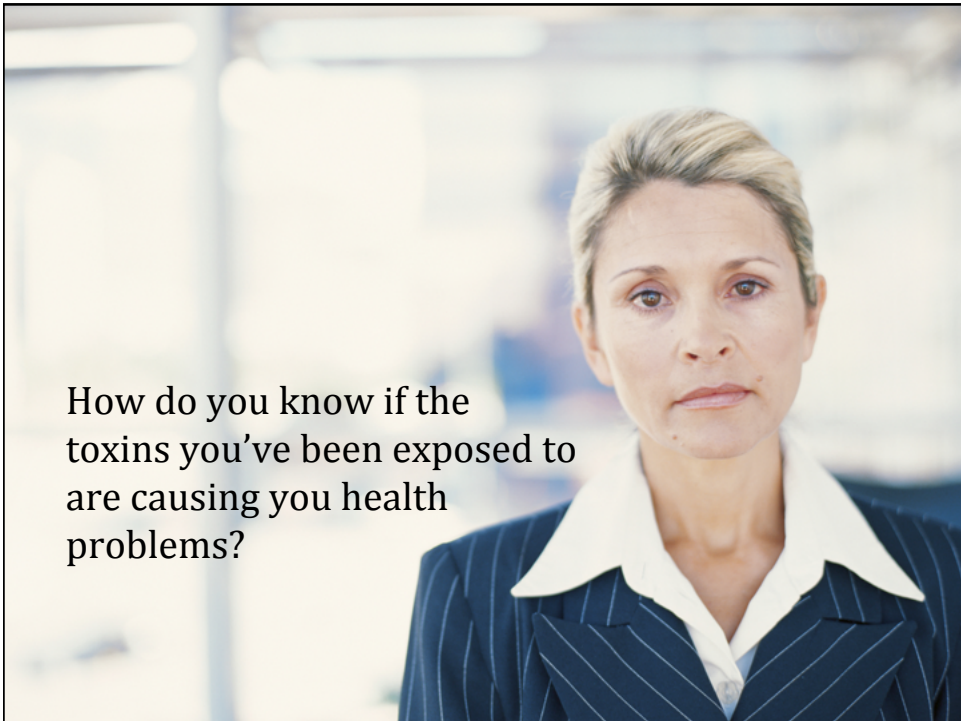
- *In the July 2004 International Journal of Obesity, Dr. Angelo Tremblay of Laval University in Quebec, Canada said the following:*
- “Pollution seems to be a new factor affecting the control of thermogenesis in some obese individuals experiencing body-weight loss.”

## Toxicity – Implications in Weight Management

- What this study found was metabolic rates slowed down in proportion to concentrations of organochlorines more so than in the concentrations of leptin.
- Two mechanisms were proposed,
  - first the effect on the **thyroid** by these toxins
  - second as a **mitochondrial toxin**. The proposition, which comes from the data gathered from thousands of tests is that the affect of environmental toxins, from Organochloric, phosphic, petrochemical, bacterial, or heavy metals is on the Citric Acid Cycle.

## Environmental Toxins can lead to Weight gain (obesity)

- Interfere with metabolism
- Overload detoxification system (liver)
- Disrupt central weight control systems
- Promote Insulin resistance
- Activate stress response (corticosteroids)
- Interfere with Thyroid function
- Increase inflammation
- Damage Mitochondria

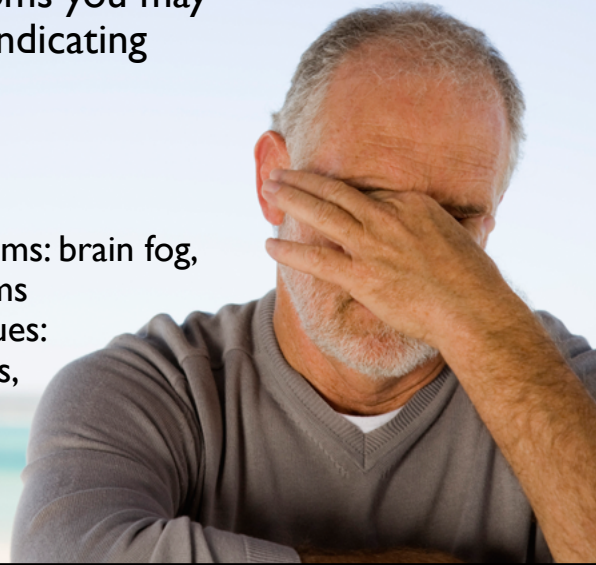


How do you know if the toxins you've been exposed to are causing you health problems?

## Symptoms of excessive toxic burden

Common symptoms you may be experiencing indicating excessive toxins:

- Fatigue
- Depression
- Headaches
- Cognitive problems: brain fog, memory problems
- Neurological issues: balance problems, tremors



## Conditions and diseases associated with excessive toxic burden

- Allergies and Asthma
- Diabetes
- Obesity
- Chemical sensitivity (any adverse physical, mental or emotional reaction to the presence of a chemical smell)
- Fibromyalgia
- Fertility problems and birth defects
- Parkinsonism
- Bone marrow cancers – Lymphomas, Leukemias, Multiple Myeloma
- Chronic infections
- Autoimmune diseases such as Lupus, Rheumatoid arthritis, Hashimotos thyroiditis, etc.



The link between exposure to a common toxin (dioxins) and type II diabetes is growing ever more evident.

**“Conclusions**  
Further research is needed to fully elucidate the precise mechanism through which **dioxin promotes type 2 diabetes in humans.**”

“We found definitive evidence indicating that a diabetogenic shift occurred in the biochemistry of adipose tissues from Vietnam veterans who were exposed to dioxin-containing Agent Orange herbicide preparations.”

*Dioxins are also present in farm raised fish, dairy products & beef*

*Environmental Health Perspectives*  
VOLUME 114 | NUMBER 11 | November 2006

Exposure to heavy metal toxicants is almost unavoidable in today's world.

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Patients are routinely exposed to heavy metal toxins through food, ground water, industrial waste and exposure to industrial environments.

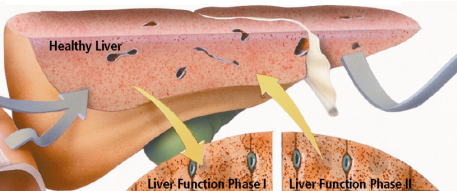
Autism	10X	Increase early 80s - 1996
Male Birth Defects	2X	Increase hypospadias, 1970 - 1993
Childhood Asthma	2X	Increase 1982 - 1993
Acute Lymphocytic Leukemia	62%	Increase in children, 1973 - 1999
Childhood Brain Cancer	40%	Increase 1973 - 1994
Preterm Birth	23%	Increase mid 80s - 2002
Infertility	5 – 10%	of Couples
Birth Defects	3 – 5%	Of All Babies
Sperm Counts	1%	Decrease Yearly 1934-1996

<http://www.ewg.org/reports/bodyburden2/part3.php>

## The Body's Detoxification Pathways: Organs of Elimination

- Lungs
- Liver
- Kidneys
- Colon
- Skin and Lymphatic system
- Other:
  - Mind, heart, emotions, throat/voice

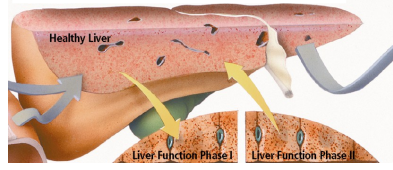
## The Body's Detoxification Pathways (in a healthy liver)



The diagram shows a cross-section of a liver. A grey arrow labeled 'Healthy Liver' points to the main liver tissue. Below it, two smaller diagrams show 'Liver Function Phase I' and 'Liver Function Phase II'. Yellow arrows indicate the flow of toxins from the intestine through the liver, where they undergo Phase I and then Phase II detoxification before being transported to the kidneys or gall bladder.

- **Step 1:** Toxins, which are fat soluble, are transported from the intestine to the liver. These include metabolic end products, chemical pollutants and contaminants, micro-organisms, food additives, drugs/medications, and alcohol.
- **Step 2:** In the liver, toxins undergo Phase I Detoxification to neutralize certain toxins
  - CYP450 enzymes, oxidation
- **Step 3:** Any un-neutralized toxins move into Phase 2 Detoxification and transformed into water soluble compounds.
  - Sulfation, Glutathione conjugation, Glucuronidation, Methylation, Acetylation
- **Step 4:** Newly transformed toxins are then transported to either the kidneys where they are excreted in the urine or to the gall bladder where they are excreted via the feces.

## The Body's Detoxification Pathways (in an unhealthy liver)



The diagram shows a cross-section of a liver. A grey arrow labeled 'Healthy Liver' points to the main liver tissue. Below it, two smaller diagrams show 'Liver Function Phase I' and 'Liver Function Phase II'. Yellow arrows indicate the flow of toxins from the intestine through the liver, where they undergo Phase I and then Phase II detoxification before being transported to the kidneys or gall bladder.

- In an unhealthy liver, toxins are unable to be detoxified at the speed that they are brought to the liver or phase 2 is slower than phase 1.
- In these cases toxins build up and **recirculate** in the blood contributing to long-term poor health. These unneutralized, fat-soluble toxins can be stored in body tissues such as fat, brain and nervous system **causing systemic symptoms and future disease processes.**
  - EX: Benzene, present in gasoline and cigarettes is oxidized in Phase One, producing more toxic benzene quinones, made water soluble and excreted by phase 2.

## What Determines the Toxic Load in a Person?

- Different exposures lead to different results in each person
- Genetic differences in phase I/II enzymes (polymorphisms)
- Nutrient deficiencies (Mg, Se, B6)
- High sugar, low protein diet
- Exposure
- Stress level during exposure
- Comorbid conditions
- Public Policy

### INCREASE

- Cruciferous Vegetables (Brassica family)
- Limonene (oranges/tangerines)
- Zi, Cu, Mg, Vitamin B, C
- Caraway seed, Dill
- *Schisandra* (magnolia vine)

### DECREASE

- Alcohol
- Cigarettes (nicotine)
- Char-broiled meat, Hi protein
- Caffeine, chocolate
- Saturated fats
- Paint fumes, exhaust
- Xenobiotics: Pesticides, Dioxins, (CCL4)
- Certain pharmaceuticals
- Vitamin Deficiency (C, B)
- Mineral Deficiency (Zi, Mg, Cu)

## Phase I Liver Detox

INCREASE	DECREASE
<ul style="list-style-type: none"> <li>• Brassica Vegetables (or a cruciferous plus supplement)</li> <li>• Legumes (Kidney, black beans)</li> <li>• Limonene (oranges/ tangerines)</li> <li>• Green Tea</li> <li>• Whole Grains</li> <li>• Red raspberries (Ellagic acid)</li> <li>• Oatmeal</li> <li>• Milk Thistle (Silymarin)</li> <li>• Alpha-lipoic acid</li> <li>• Folic Acid, Vitamin B12, Magnesium</li> <li>• Probiotics containing bifidobacterium</li> <li>• Glycine</li> <li>• Fasting</li> </ul>	<ul style="list-style-type: none"> <li>• Deficiencies                             <ul style="list-style-type: none"> <li>◦ Vitamin C, B2, B5, B6, B12, choline, folic acid</li> <li>◦ Selenium, zinc, magnesium, glutathione</li> </ul> </li> <li>• Inadequate balanced protein</li> <li>• Pharmaceuticals                             <ul style="list-style-type: none"> <li>◦ Aspirin, NSAIDS</li> </ul> </li> <li>• Excessive toxin exposure</li> <li>• Stress (mental, emotional , trauma)</li> </ul>

Phase 2 Liver Detox

## Natural Therapies for Detoxification

- Dandelion Root
- Milk Thistle (silymarin)
- Artichoke
- Root Vegetables
- Alkalinizing diet
- Cruciferous vegetables
  - Increase glutathione, Phase I/II
- Fasting
- Psyllium husk
- HEPA/ULPA filters



## How Do I Know If Exposures are causing Symptom's?

- So what to do???
- It is critical to assess the toxic load of the individual through a competent laboratory assessment.
- It is important to continue the follow-up with not only laboratory testing but clinical assessment.

## TESTING / LABS

- **Petrochemicals and Pesticides**
  - Urine Organic Acids: a spot urine test
  - Organophosphates Profile
  - Environmental Pollutants: a spot urine test
- **Heavy Metals**
  - Heavy Metal Challenge with chelating agents
- **Neurotoxins:**
  - Visual Contrast Sensitivity Test
- **General LAB Tests:**
  - CBC, Comprehensive Chemistry Panel, Homocysteine, Methylmalonic Acid, Urinalysis, Microalbumin
  - GGT, MTHFR
  - Genetic testing for Phase I/II SNPs, DetoxiGenomics
  - Oxidative stress Analysis
  - IgG food sensitivity, Celiac testing, hidden infections (lymes, H pylori, etc.)

## Therapies

- The Solution to Pollution is Dilution
- Avoidance, Mitigation, Support the Organisms Natural Detoxification Processes
  - HERBS: Milk Thistle, Dandelion root
  - FOOD: Beets, Artichoke, Brown seaweeds
  - NURTIENTS: Selenium, Vitamin C, Whey protein, Mixed Tocopherols, SAME, Chloryphyll, Glycine, Glutathione, Sulpher donors like garlic
  - HOMEOPATHICS

## Neurotoxins

- Remediation: Walls that have experienced dampness are common sources of mold.
- Prescription Medications: Cholestyramine, Colesevlam (Welchol)
- Supplement/OTC products: Chlorella, Pectin, Plant Sterols, alpha lipoic, lecithin

## Petrochemicals and Pesticides

- Benzene: probiotics, alpha lipoic acid, selenium, mixed tocopherols, vitamin C, glycine, whey protein
- Phthalates: mixed tocopherols, whey protein, magnesium glycinate, zinc citrate, selenium
- Styrene: mixed tocopherols, vitamin C, glycine, whey protein, selenium
- Paraben: vitamin C, whey protein, silymarin

## Heavy Metals

- Mitigation: remove amalgams
- Products of General Benefit: chlorella, cilantro, matrix metals
- Mercury: DMPS IV or oral once monthly
- Lead: EDTA IV weekly
- Cadmium: oral DMSA
- Aluminum: Malic acid chelates

## General Therapies

- Hydration
  - Water bottled in soft plastic will leach phthalates
- Alkalinization: (when appropriate)
  - green vegetables , fruits, alkalinized water for the severely acid person
- Normal Bowel Movements
- Neural Therapy
- Far Infrared Sauna
- Stress release
- Steam Bath with Ozone
- Foot Baths
- Supplements which support our innate detoxification processes:
  - selenium, zinc, magnesium, Glycine, Taurine, Whey protein, Silymarin, alpha lipoic acid, SAME

### Reduce Your Exposure To Toxins: Environment

- Use chemical free products in your home (soap, detergents, cleaning products, dryer sheets, natural insect and weed killers, etc).
- Take off your shoes before entering the house to avoid tracking in chemicals from outside.
- Reduce chlorine exposure by attaching filters to your shower heads (*Chloroform is released when chlorinated water is heated.*)
- Avoid personal products with pthalates, paraben, 4-MBC



**Reduce Your Exposure To Toxins:**  
**Food & Drink**

- **90% of our toxin exposure to certain chemicals such as PCB's and dioxins actually come from the food we eat.**
- **35% of all the foods we purchase in the U.S. supermarkets have measurable pesticide residues which make their way into our body.**
- **One or more pesticides on 70.3 percent of fruit and vegetable samples tested.**
- **Between 5 and 13 different pesticide residues tainted one of every 10 fruit or vegetable samples.**
- **To reduce your exposure via pesticides and herbicides on your food, avoid eating fruits and vegetables on the Dirty Dozen List, choose organic substitutes for these foods.**

**DIRTY DOZEN™**  
[www.foodnews.org](http://www.foodnews.org)

Buy these **organic**:

1. Celery	7. Bell Peppers
2. Peaches	8. Spinach
3. Strawberries	9. Cherries
4. Apples	10. Kale/Collard & Greens
5. Blueberries	11. Potatoes
6. Nectarines	12. Grapes (Imported)



**CLEAN 15™**  
www.foodnews.org

**Lowest** in pesticides  
*Ok to eat conventionally grown*

1. Onions	9. Cabbage
2. Avocado	10. Eggplant
3. Sweet Corn	11. Cantaloupe
4. Pineapple	12. Watermelon
5. Mangos	13. Grapefruit
6. Sweet Peas	14. Sweet Potato
7. Asparagus	15. Honeydew & Melon
8. Kiwi	



**Reduce Your Exposure To Toxins:**  
**Food & Drink**

- Conventionally raised meat and dairy products have consistently been tested and found to have the highest levels of “hormone disrupting” chemicals in them.
- 25 million pounds of antibiotics a year are fed to livestock and the animal feed which is highly sprayed with chemicals as well.
- Animal feed contains high quantities of fat which allow for the storage of these fat-soluble chemicals
- They are then passed on into the human digestive system and body when you eat these products.




**Reduce Your Exposure To Toxins:**  
**Food & Drink**

- Choose free-range, hormone, anti-biotic free RGH free, dairy, meats, eggs whenever possible
- Choose fresh, cold-water fish in place of farm raised
- When possible eat organic produce if it is listed on the Dirty Dozen list
- Always wash all produce very well before eating, peeling or cooking.

Reduce Your Exposure To Toxins:  
**Other Exposure Routes**

Phalates, another toxin, is found in a large majority of plastic packaging and can leach into the foods that you eat.

- Use stainless steel or glass drinking containers, reduce or eliminate all plastic utensils, drinking containers, plates and storage containers.
- Store food in glass, non-plastic containers
- Never microwave food in plastic containers



## DETOX PROGRAMS WE OFFER

- Nutritionally **support** your liver and **improve** your body's **natural detoxification processes**.
- Support your body's ability to excrete toxins once they have been neutralized thus **reducing the chance** that they will recirculate and be stored in the body.
- Provides nutrients to support all phases and organs of detoxification/elimination.

## Start Your Program Today

- 12 day program for mild symptoms
- 28 day program for severe symptoms

### ADDITIONAL SUPPORT:

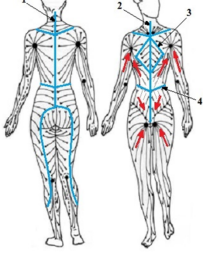
- Infra red saunas, Ozone bath, Detox mat
- Cooking classes in the Nutrition Kitchen
- LET for lymphatic drainage
- NeuroOptimal with QEEG



## Lymphatic Enhancement Therapy (LET)

- A unique, gentle stimulation of the lymphatic system using the Letesse Fusion Device (sound, light, vibrations and micro current) in conjunction with manual technique know as “touch and directional release”.
- Lymphatic Function:
  - Transports protein rich molecules, immune cells, and toxic materials from the limbs and organs to the lymph nodes, liver, spleen, tonsils and adenoids.

- Improves lymphatic system function
- Facilitates pain reduction
- Facilitates healing pre and post surgery
- Supports tissue detoxification
- Supports and stimulates drainage of congested areas = less inflammation
- Provides immune system support



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